**3GPP TSG SA5 Meeting #155 *S5-243059***

Jeju, South Korea, 27 - 31 May 2024 Revision of S5-25xxxx

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **32.255** | **CR** | **0536** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Rel-18 CR 32.255 Correction on satellite backhaul charging principle and procedures |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI18, 5GSATB\_CH |  | ***Date:*** | 2024-05-30 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | The satellite backhual charging principle is not clearly described, missing the specific charging scenarios.The satellite backhual charging message flows is not accurate. |
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| ***Summary of change:*** | 1. Refine the satellite backhaul charging principle, to cover the applicable scenarios.2. Refine the description in message flows, to correct the reference to figures, clarify the trigger and charging information. |
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| ***Consequences if not approved:*** | The satellite backhual charging is incomplete. |
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| ***Clauses affected:*** | 5.2.1.16, 5.2.2.20.2.1, 5.2.2.20.2.2. 5.2.2.20.2.3. 5.2.2.20.2.4 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ... |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Revision of S5-242748 |

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| **First change** |

#### 5.2.1.16 Satellite backhaul Charging

The SMF provides charging information collection and reporting per PDU session for Satellite backhaul charging during PDU Session establishment and PDU Session modification procedure if the Satellite backhaul have been used, according to clause 5.43 of TS 23.501 [200].

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| **Next change** |

###### 5.2.2.20.2.1 Satellite backhaul charging

The charging message flow of PDU session establishment for supporting Satellite backhaul, is based on Figure 5.2.2.2.2-1 description with the differences identified in clause 4.3.2.2.1.1 TS 23.502 [202].

9ch-a, If SMF received the satellite backhaul category in step1 in clause 4.3.2.2.1.1 TS 23.502 [202], SMF sends the Charging Data Request [Initial] including satellite backhaul category and satellite backhaul traffic usage report to CHF for the satellite backhaul charging.

16ch-a, The SMF sends Charging Data Request [Update] including the satellite backhaul traffic usage report and the corresponding current satellite backhaul category to the CHF.

The charging message flow of PDU session Release for supporting Satellite backhaul, is based on Figure 5.2.2.2.4-1 description:

2ch-a, The SMF sends Charging Data Request [Termination] to CHF including the satellite backhaul traffic usage report and the corresponding current satellite backhaul category.

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| **Next change** |

###### 5.2.2.20.2.2 Edge Computing charging with satellite backhaul

The message flow is based on the message flows for PDU session establishment, modification and release in clause 5.2.2.2 with the enhancement of the satellite backhaul information for the PDU session charging information.

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| **Next change** |

###### 5.2.2.20.2.3 SCC-to-SCC communications charging via satellite backhaul

The message flow is based on the message flows for PDU session establishment, modification and release in clause 5.2.2.2 with the enhancement of the satellite backhaul information for the PDU session charging information.

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| **Next change** |

###### 5.2.2.20.2.4 PDU session Modification with Dynamic Satellite backhaul charging

If dynamic satellite backhaul is used, e.g. the satellite backhaul category changes from the MEO to LEO, the capabilities (latency) of the satellite backhaul change over time due to use of varying inter-satellite links as part of backhaul as specified in clause 4.3.3.2 of TS 23.502 [3].

The charging message flow of PDU session Modification for supporting dynamic satellite backhaul charging, is based on Figure 5.2.2.2.3-1 description with the differences:

2ch-a. The SMF sends Charging Data Request [Update] including Satellite backhaul Information and satellite backhaul traffic usage report to CHF for the satellite backhaul charging when the trigger "Satellite backhaul category change" and/or "GEO satellite ID change" is armed

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| **End of change** |